New Jersey Blacksmiths Association

NEWSLETTER

Volume 3, No. 2 Aug., 1998

August Membership Meeting

The August meeting will be on **Sunday, August 16.** at **Ray Maiara's "Aurora Forge" on Staten Island**. Ray has a great shop, in which he has both manufactured commercial iron products (grill guards for trucks) and executed works of art (tables, plant stands, masks and other works). Ray has also assembled **the worlds first (steel) Grasshopper Treadlehammer** (see "Saga of the Grasshopper Hammer" later in this issue), which we expect he'll have ready to demonstrate at the meeting.

Please bring lunch and something for the IITH. There's only curbside parking, so the **tailgate sale** will be limited to what you can display in the back of your vehicle. (Judging by the way businesses lock up for the night in this area, *somebody* is worried about theft. You might not want to leave obviously valuable tools, etc., in an open or unlocked vehicle.)

Directions: From the Outerbridge Crossing, go north on Rte. 440 (West Shore Expressway) to I-278 (Staten Island Expressway). (Alternatively, take the Goethals bridge, which is I-278). Go east on I-278 (toward Brooklyn). Take the **Clove Road** exit, and at the bottom of the exit ramp make a left turn at the light (onto Clove Road). Take Clove Road to the end, and make a right turn onto **Richmond Terrace**. Follow Richmond Terrace approx. 3 miles, watching on the right for "Snug Harbor Center", which is fronted by a **heavy iron fence which ends at a brick wall**. Make a **right turn onto Tysen Street** (on the other side of the brick wall). The corner building is **814 Richmond Terrace**. Ray's shop entrance is the last overhead door on the Tysen Street side of the building. (The shop phone number is 718-442-7192.)

Persons interested in **carpooling** should contact Bruce Freeman.

September Meeting
Anvil-Repair Workshop

The second (annual?) NJBA anvil-repair workshop will be held **Saturday, September 19, at the shop of Marshal Bienstock**, beginning **at about 10 am.** We will be repairing anvils in a production line setup with prep, preheating, welding, and grinding stages set up around the facility. The heart of the operation is Marshall's MIG welder. (We're gonna use MIG this time!)

The most likely candidates are those anvils with beat up edges and corners, but which don't need much metal added to the face. Certain cast iron anvils cannot be welded. Extensively damaged or pitted anvils are not appropriate for repair at this workshop. If you are not sure your anvil is appropriate for repair, please contact or Marshall Bienstock at (732) 780-0871.

The charge is **$100 per anvil** (for a 100-250 lb. anvil). (All proceeds beyond expenses go to the NJBA treasury.) Only a limited number of anvils can be repaired in this workshop, so **preregistration is essential.** To preregister, mail your check, made out to "New Jersey Blacksmiths Association" for $100, to David Macauley, 4 Patricia Ct., Howell, NJ 07731 (732) 206-1568. Include your name, address and phone number with your check. **You must be an NJBA member to register for this workshop**, but you may join at the time you preregister. (See the back of the mailing cover of this issue for the application form, but send it and your check to David, not Pete, to avoid confusion.)

Please come dressed for work. All registrants are expected to participate in the work. Other members are welcome to help for the learning experience or the camaraderie. Persons with considerable welding experience or portable welders are encouraged to contact Marshall (732-780-0871) to volunteer their equipment and services.

Also: Bring lunch and all your junk, scrap metal, extra tools and books to sell or trade at the **tailgate sale**. There will be no iron-in-the-hat (IITH) at this meeting.

Marshall's farm is at **663 Casino Drive, Howell** (Monmouth Co.), **NJ**, which is about **1/4 mile east of Route 9**. Casino Dr. is **a few miles north of I-195, and a few miles south of Rte. 33**. Either of these routes can be easily reached from the major north-south highways, including the Garden State Parkway, the NJ Turnpike, I-295, Rte. 18 or Rte. 34. Marshall can be reached at his shop at **(732) 780-0871**.

October Meeting

The October membership meeting will be held on **Sunday, October 28, at the forge of Dan Cruzan near Bridgeton, NJ.** (If you'd like give a demonstration, contact Dan by Oct. 1.) We plan to set up one or more open forges outside so you can practice what you see. The schedule for the meeting is as follows:

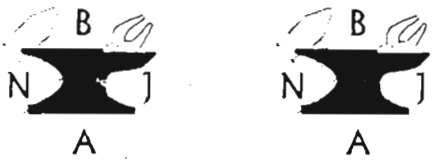
9:30 a.m.	- arrival, coffee, socializing
10:00 a.m.	- demonstration of basic techniques.
11:00 a.m.	- project demonstration
12:00 p.m.	- lunch, socializing, tailgate sales, IITH
1:30 p.m.	- demonstration.
2:30 p.m.	- advanced demonstration

Bring lunch and a lawn chair (and extra chairs if you can). Please bring a project you have made that to inspire us all. Please bring something to donate to the **iron-in-the-hat**. And bring all your old surplus tools, supplies, books or whatever for the **tailgate sale**.

Dan's forge is near Bridgeton (Cumberland Co. NJ). **0 mSouthbound on NJ turnpike get off at exit 2. Take Rte. 322 east to Mullica Hill. Take Rte. 77 south about six miles to Deerfield,** which is at the intersection of Rtes. 77

and 540. From Deerfield, **proceed west on route 540.** Go past the 20 mile marker and at the next intersection **turn left onto Harmony Rd.** Go to the stop sign **turn left onto Walters Rd.** Go 200 yards **turn right onto Harmony Rd.** Dan's is the **first farm on the right.** There is a sign that says Dan Cruzan's-Nursery (146 Harmony Rd., Bridgeton, NJ, 08302, 609-451-0904). **If coming into NJ across Delaware Memorial Bridge take Rte. 49 east,** (pick up 49 at the foot of the bridge). **Go past the 19 mile marker on Rte. 49, turn left onto Jericho road.** At the next stop sign **go straight across onto Moore's Corner Road**. At the next stop sign **turn left onto Harmony Road.** Dan's is the **first farm on the left.**

Persons interested in **carpooling** should contact Bruce Freeman.



November Meeting - Peters Valley!

The November meeting will be on **Saturday November 14** at the **blacksmith shop** at **Peters Valley Craft Center**. Don't miss this one. Peters Valley is a renowned craft school with a topnotch blacksmithing program, currently directed by **John Rais**. (See the Peters Valley calendar, elsewhere in this issue.) Festivities begin at 10 am and continue until everyone goes home. There will be an iron-in-the-hat and a tailgate sale. Please bring a lunch and an item for the iron-in-the-hat.

John has done some beautiful work based upon insect forms. He will be showing some slides, and some examples of his work. (Visit *http://www.pvcrafts.org/* for a preview.) He will show us the Peters Valley facility and give a demonstration. Everyone is invited to bring examples of their own work. (If you have slides you'd like to show or a demonstration you'd like to give, please call John at least a few days before the meeting so that he can make a place for you in the program.)

Directions: Peters Valley Craft Education is located at 19 Kuhn Road, in Layton (Sussex Co.), NJ 07851. (Phone: 201-948-5200) Since this meeting is early Saturday morning, those of you in south New Jersey may find it feasible to take US Route 206 all the way up. Otherwise choose the highways you prefer. Peter's Valley provides the directions, below.

From Interstate Route 80 West: Take Exit 34B to NJ Route 15 North, to US Route 206 North, left onto NJ Route 560 West, through the blinking light in the center of Layton, onto NJ Route 640; go about 2 miles and turn right onto NJ Route 615. Go approximately one mile.

From US Route 209 (on the west bank of the Delaware River, in Pennsylvania): Take PA Route 739 South across the Dingmans Ferry Bridge. Take the first right at sign to Peters Valley. Go two miles.

Persons interested in **carpooling** should contact Bruce Freeman.

December Holiday Party (Pot-Luck)

Marshall Bienstock will host the **December Holiday Party on Sunday, December 21.** The party and potluck dinner will be held at the home of Marshall and Jan, **301 Casino Dr., Howell**, (Monmouth Co.) from 2:00 to ? p.m. (Ph: 732-938-6577). Spouses (or "significant others") are welcome. Please bring a dish of your choosing, enough for about six or eight modest servings (or twice that if there are two of you coming). If you bring a special-diet dish, such as vegetarian, please label it so others will know. We will provide a green salad and soft drinks; if you wish something alcoholic, please bring your own.

Marshall and Jan's "cabin" is not on Marshall's farm, but about 3 miles east of it on the same road. **Casino Drive is just of Rt. 9, about 3.5 miles north of Interstate Rt. 195** (exit 28), **and about 4 miles south of Rt. 33**. Either of these routes can be easily reached from the major north-south highways, including the Garden State Parkway, the NJ Turnpike, I-295, Rte. 18 or Rte. 34. From Rt. 9 northbound, make a right onto Casino Dr.; southbound, take the jug handle to make a left onto Casino.

Events Outside New Jersey

Sat.-Sun., Sept. 12-13, Dover, DE. Early American Wrought Iron Conference. Featuring, **Peter Sevin** from Phoenix, AZ, and **William Wojcik** from The Plains, VA. Co-sponsored by Mid-Atlantic Smiths Association and The Delaware Agricultural Museum. Preregistration: $45 for both days. ($55 if registering after Sept. 1.) Call 302-734-1618. For more information, call Ray Noble: 800-220-3015 (days) or 410-651-0987 (eves.)

Sat.-Sun., Sept. 26-27. Quad State Roundup. Miami County Fairgrounds, **Troy, OH.** Featuring **Wayne Goddard**, Knifemaking; **Joe Bonifas**, Contemporary; **George Dixon**, Traditional; **Kirsten Skiles**, Repousse; **Bill Hahn**, Basic. Phone and fax registrations are NOT accepted, any questions call Brian Thompson, (937)878-7084 or Larry Gindlespurger, (937)237-2200. **Fees**: $45 advanced reg., $50 on-site reg., $6 family members. (Single-day registration and camping available.)

Sat., Aug. 22. PA Artist-Blacksmith's Assoc. meeting at Dave Fisher's "Fisher Forge" near Hamburg, PA. Dave will be making componentes for Betty Iams and utensils. For people interested in TIG welding, bring your welding helmet. Jim Miklos will be forging hardware items. Harry Fisher will do a metal spinning demonstration. **Tailgate sale. Lunch provided. Please bring something for the iron-in-the-hat**. Trade item: fireplace broom. **Directions**: Take I-78 west to Lenhartsville Exit #11, turn right onto Old Rte. 22, go 3 miles and turn left onto a gravel lane immediately before the church parking lot. Alternatively, take whatever route you choose to Reading, PA. From there, take Rte. 61 north to the light at Hamburg, proceed into Hamburg on 4th St., turn right at the second light in town onto State St., go 2.3 miles and turn right onto a gravel lane immediately after the stone church.

Report on the June Meeting

by Bruce Freeman

The June meeting was held on Sunday, June 28, at 10 am at the shop of Marshal Bienstock. In attendance were Bob Holzman, Tom Gambino, Michael Hargrove, Peter Bazakes, Josh Kavett, Ron Grabowski, Joe Grasso, Bill Ker, Pete Engle, Jan Muchnikoff, Jon Folk, Tim Suter, Andy Vida, David Macauley, Marshall and I.

Bill and I showed up with my wooden mock-up of my Grasshopper treadle hammer. Bill had been kind enough to stop by my house before the meeting to load it in his pick-up truck, so that I wouldn't have to carry it on the roof of my poor, abused Toyota Tercel. The Grasshopper hammer (about which the ABANA newsgroup "theForge" was abuzz) is a vertical-motion treadle hammer of my own design. (See "Saga of the Grasshopper Hammer" later in this issue.) I demonstrated the action of the hammer, to mixed reviews.

Marshall showed videos of the Williamsburg blacksmiths at the Asheville ABANA conference. Unfortunately Marshall was having some camera trouble, but the videos were worthwhile nonetheless.

I regret to report little activity in the tailgate sales. A few of us did bring stuff for sale or trade, but it appeared little changed hands. I want to encourage those of you with equipment needs or surpluses to participate in these sales. There's no charge to participate. Participation in the IITH was good: $81 was raised for the NJBA treasury.

Item	Donor	Winner
4 pieces 5160	Tim	David
"	"	Marshall
Butcher-block brush	"	Bruce
"	"	Marshall
Slack tub	"	Peter
"	"	Marshall
"	"	Michael
"	"	Bob
"	"	Ron
"	"	"
"	"	David
Hand-crank grinder	Michael	Marshall
Large old tongs	"	Josh
Pipe vise	"	Josh
Wrought-iron strap hinges	"	Marshall
Hatchet blanks	"	Peter
Piece of wrought iron	Tom	David
Aluminum carpenter's rule	Jon	Tom
Several pounds of lockwashers	Marshall	Tim
Cherry wood for turning	Josh	Joe
Breast drill	Bruce	David

Report on the July Meeting

The July meeting was held on Saturday, July 18 at 9 am at Longstreet Farm (Holmdel Park, Monmouth Co., NJ), where we were guests of Norman Nelson, volunteer interpreter in the blacksmith shop, and Jim Claffey, an employee at Holmdel Park who has been studying horseshoeing. David Macauley and Marshall Bienstock demonstrated the forging of traditional 19th-century hardware. In attendance were Ron Grabowski, Tim Suter, Josh Kavett and Bruce Freeman.

David and Marshall turned out some very good reproductions of door latches and strap hinges of the sort used on buildings on the farm. Jim gave us a behind-the-scenes tour of the farm. The 18th-century barn is being renovated, with new flooring, siding and roofing in the original tradition. The timbers of this barn were hand hewn with the ax marks still quite visible. We went into the loft of the carriage house and saw an array of miscellaneous old farm equipment and parts. A day well spent.

Blacksmith Workshops in NJ

Peters Valley Craft Education Center

19 Kuhn Rd., Layton, NJ (973) 948-5200

pv@warwick.net http://www.pvcrafts.org

Beginner - little or no experience in blacksmithing.

Intermediate - prior experience and familiarity with forging techniques and processes.

Advanced - suitable experience and familiarity with forging techniques and processes.

("*" means that additional supplies will need to be acquired. A supply list will be sent prior to the start of the class.)

"The Iron Barrier: An Exploration of Function and Design," Alice James & Japheth Howard - August 14-25 (12 days) A small garden gate or window grille will be the project for this workshop. Each student will design and make a piece that incorporates their individual style. Traditional and contemporary blacksmithing methods and tools made for the project will be covered within this intensive skill-developing course. Intermediate to advanced. Tuition: $600.00, Lab Fee: $110.00 *

"Mosaic Damascus," Robert Eggerling - August 28-31 (4 days) Create unlimited damascus steel patterns using the mosaic lamination method. We will discuss process, theory and material selection, then assemble and fuse our billets utilizing a hydraulic forging press. Beginner to intermediate. Tuition: $272.00, Lab Fee: $50.00 *

"Fire, Iron and Instinct," Gil Meeker - September 4-6 (3 days) Learn to build and maintain the forge's fire, allowing your hands and tools to bend, twist, scroll and shape iron. Beginner to intermediate. Tuition: $214.00, Lab Fee: $40.00 *

Studio Time! John Rais - September 11-13 (3 days) This workshop is for the experienced student who would like some forge time to work on a project of their own design. Each participant must contact John Rais, Peters Valley's new blacksmithing artist-in-residence/program coordinator, prior to registration to discuss project feasibility and required materials. Intermediate to advanced. Tuition: $214.00, Lab Fee: (call)*

Editorial - This Double Issue...

I'm tired. This is the twelfth issue of this newsletter I've published since NJBA was founded in May, 1996. That's about one issue every nine weeks, on average. Compiling, typing and proofreading this newsletter is taking up much of my time and often keeps me out of my shop. (If anyone wants to be editor, please speak up!)

Recently Tim Suter has started contributing clippings from other ABANA Chapter newsletters. Last issue I published an extra twelve pages of this material. This issue I'm doing it again. This will give you more useful material than I alone can provide.

The catch is that, with meetings announced in this issue through December, I'm taking a vacation from publishing newsletters for a while. Instead, you will receive postcard reminders of meetings from time to time.

Editorial - ABANA Conferences

My wife and I wen to Asheville this year for the ABANA Conference. I enjoyed it, but no more than I enjoyed Gichner's hammer-in or the Furnace Town Joint Meeting this year. The ABANA Conference galleries were truly unique, but otherwise I don't know that I came away with as much as I expected. The problem, of course, is that there were about ten demonstrations (plus classroom presentations, plus tailgating and commercial exhibits plus galleries) all going on simultaneously. Furthermore, the schedule did not state what each demonstrator was going to be doing, making the choice of demonstrations rather arbitrary. Then, too, some demonstrations were so packed that no seats or even standing room was available. In short, too much went by too quickly, with too little opportunity to plan what I wanted to see. (This conference should have been a full week long. I still wouldn't have seen everything, but at least I'd have seen a lot more.)

Therefore I've decided that my time and money might be better spent on smaller, more local events. I plan to start attending more events in neighboring states, which are less costly to attend and take less travel time.

Will I go to another ABANA Conference? Well, it the idea excites me at the time, I will. If not, then I'll probably go only if it's nearby. That would preclude Flagstaff, AZ, in 2000. If the 2002 conference comes to Connecticut, however, I'll probably go.

In the meantime I plan to keep an eye on the anticipated activities of the New York, New England, Pennsylvania and all those Maryland chapters. I may also sign up for more classes.

Old hands need no advice from me. For the newcomers, here's my advice: Go to all the local events you can. Go to all the local annual events within a few hours' drive. Take some classes -- locally, if possible. When you've done these things and talked a lot to other people -- then you can make up your own mind whether the time and expense of an ABANA Conference is worth the return.

Editorial - Your Opinion Counts!

The New Jersey Blacksmiths Association is run by the board of directors -- currently composed of eight members. Ours is a good, active board, with no dead wood. The vast majority of ideas on what NJBA should be doing comes from these eight members.

That the board has been making fairly good decisions is evident from meeting attendance and feedback. But we could use more feedback. For example, NJBA has yet to bring in an outside demonstrator for a meeting. (We're hoping to help bring Peter Ross to Allaire Village in the spring.) Should we make this a priority? Would you be willing to subsidize demonstrations or workshops given by such talented people?

Another example: I've notice that NJBA meetings held at historical sites draw a smaller attendance than usual. Are we doing something wrong here? Perhaps I'd better point out that NJBA is committed to network with such sites for a number of reasons. One reason that could be important to NJBA members is the potential for forming blacksmith guilds at a number of such historical sites ("living history museums") around the area. Such programs would provide much opportunity for blacksmithing, without the need to set up your own shop. It also promotes blacksmithing in the eyes of the public.

To make NJBA "move" in the direction you'd like it to move, we're going to have to hear from you. Email us, write a letter to the editor, or just buttonhole us at meetings. Let yourself be heard.

NJBA Directors

Marshall Bienstock (director until June, 1999)
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732-780-0871, mbienstock@worldnet.att.net

Pete Engle (director until June, 2000)
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732-219-6560; Pete@Almosthome.com

Bruce Freeman (director until June, 2000)
222 Laurel Place, Neptune, NJ 07753
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609-423-4417

Andy Vida-Szucs (director until June, 1999)
13 Old Monmouth Rd., Freehold, NJ 07728
732-308-9039; osan@netlabs.net

Saga of the Grasshopper Hammer

by Bruce Freeman

Last summer I attended Caniron 1 (and reported on it in this publication). There I first saw Sheppard's "Big Lick" treadlehammer. This machine has a vertical stroke, which was a very attractive feature to me, considering all other treadlehammers I'd seen had swing-strokes. There were things I didn't like about the Big Lick, however: It has only a 9" stroke, the treadle linkage is only 1:1 and I didn't like the way the treadle was linked to the hammer. Sheppard uses the hammer largely for repousse work, of which he is expert.

Since then I've been playing with ideas involving various "straight-line motion" mechanisms, well known to engineers. These included the Tchebechev, Peucellier, Scott-Russell, Thompson, and grasshopper straight-line motions. I knew I was on to something, but I couldn't quite put it all together.

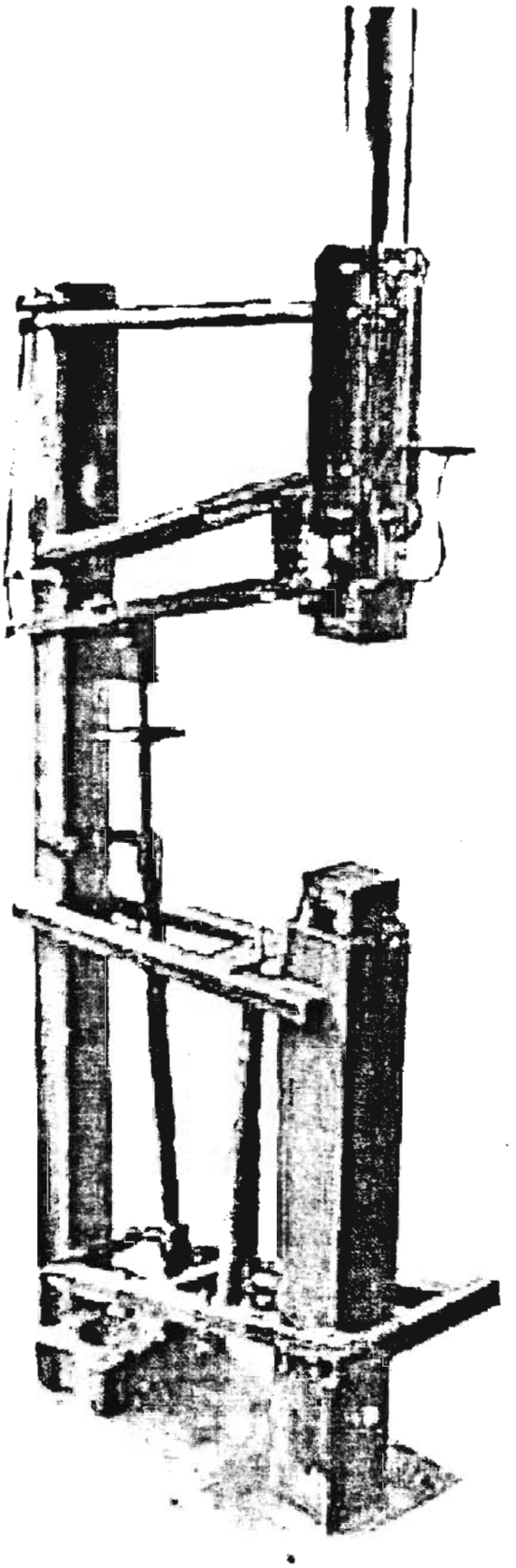
Then came the ABANA conference. Clay Spencer, of treadlehammer fame, had a new model to demo and for sale. It was a clever design in which the hammer moved vertically, guided by eight plastic in-line skate wheels. It worked very smoothly, but was more complicated than I cared to build, and there were some other things about it that I thought I could improve upon. What caught my eye, however was the hammer arm, which connected near the bottom of the hammer. The pivot of this arm was designed to swing backwards on a hanging arm as the hammer came down, a very simple, very clever design. It reminded me *a lot* of the grasshopper straight-line motion.

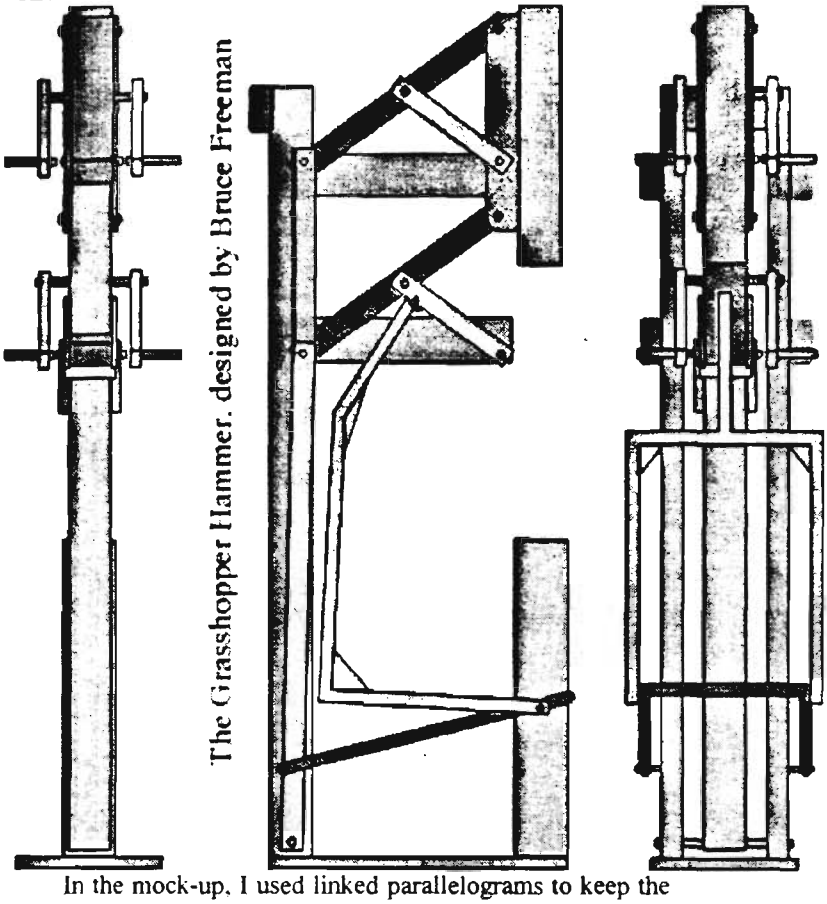
Photo to the right:
Clay Spencer's latest treadlehammer, with vertical hammer motion, as displayed at the ABANA Conference.

On the way home from the conference I played with designs. In addition to the known straight-line motions mentioned above, I sketched out two based upon cams. However, for simplicity, none could beat the grasshopper linkage.

When I got home I went to work and built a wooden mock-up of the grasshopper hammer. (Some of you have seen this mock-up, which is outside the door of Marshall Bienstock's shop. See the report on the June meeting, earlier in this issue.)

Logo of the Grasshopper Hammer mock-up, by Bonnie Freeman





The Grasshopper Hammer, designed by Bruce Freeman

work to visit Marshall's shop to see my wooden mock-up. Ray now has the distinction of having built the first Grasshopper Treadle-hammer. His design, however, is different from mine. **Come out to the August meeting if you'd like to see it.**

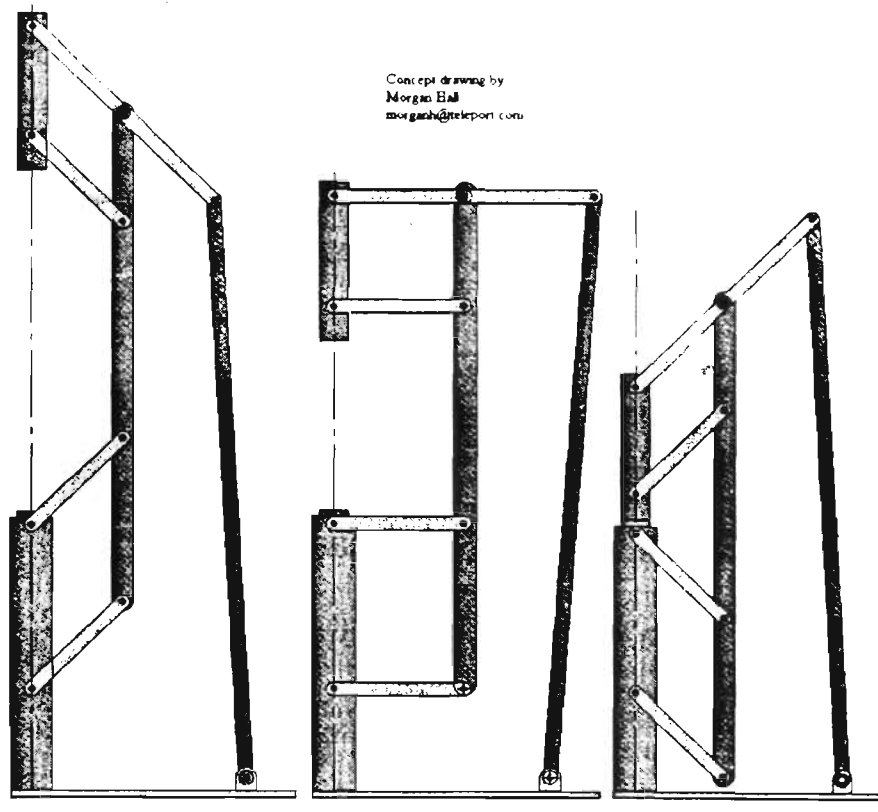
Drawing to the left:
Bruce Freeman's
Grasshopper Treadlehammer.
Back, side and front views,
hammer in raised position.

Drawing below:
Morgan Hall's
Weta Treadlehammer,
A frameless treadlehammer with
full "grasshopper" action.
Concept Drawing, side view,
shown in three positions.

In the mock-up, I used linked parallelograms to keep the hammer vertical. In principle this should have worked, but it proved impractical. Therefore I have redesigned the hammer, as illustrated above.

There has been much discussion and debate about this design over the ABANA newsgroup, theForge. One active participant in the discussion is Morgan Hall, of Wilsonville, OR (with whom I traveled to Caniron 1). He has made a truly unique contribution to the discussion with a frameless grasshopper-variant hammer which I have dubbed (with his blessing) the "Weta Hammer." (A weta is a carnivorous insect, closely resembling a grasshopper, but with massive jaws.) His design is very clever, but is less simple than the Grasshopper Hammer, because, without a supporting frame, those pivot points have to be *quite* rugged.

Another outspoken participant in the discussion was Ray Maiara, of Staten Island, NY (which we all know is really just a renegade province of New Jersey). Ray took an evening off



'Frameless' treadle hammer with full grasshopper action

The Scrap Corner

• For a more interesting visual effect when using square stock in decorative pieces, balusters, scrolls, etc., try positioning the piece with the corner at the facing side rather than the flat surface. Tim Suter

• The smith also by sitting at the anvil, and considering the iron work, the vapor of the fire wasteth his flesh, and he fighteth with the heat of the furnace: the noise of the hammer and the anvil is ever in his ears, and his eyes look still upon the pattern of the thing he maketh: he setteth his mind to finish his work, and watcheth to polish it perfectly.

Ecclesiasticus, 38, 39; contributed by Tim Suter

• There is often a need to cut/make a piece of stock to fit an inside dimension. To make the measuring easier and often more accurate I use a piece of thin-wall tubing with an inside diameter of just over 5/16" into which I insert a piece of 5/16" rod 1" longer than the tube and that has been bent slightly 2" from one end. The bend causes a friction fit so that when the rod is extended it will stay in place. To use, simply insert the assembly into the area to be measured and pull out the rod until the assembly touches on both ends. Remove and transfer the length to the workpiece. For distances shorter than the assembly, align the shoulder crated by the tube and the rod with one end of the desired dimension and the rod end with the other. Dan Cruzan

• Here's an easy, non-toxic finishing process for iron: (1) Clean the metal completely, removing all oils and mill scale. This can be done by degreasing followed by pickling in muriatic acid. (2) Warm the clean, dry piece (in the sun). Some prefer to heat the iron so that the solution almost boils off, for a faster reaction. (3) Spray on the hydrogen peroxide, just enough to wet the surface. (Try to get the 10% solution, as it works faster than the 3%. Some prefer to mix 1 pt. hydrogen peroxide with 1/4 cup distilled vinegar and an ounce of salt.) The iron should be warm enough to dry out in less than a minute. If any areas stay wet longer, gently dab them with a paper towel. (4) Repeat step 3 until you have the depth of coloration you desire. Make sure the piece is entirely dry before spraying more on. Five or six rounds gives a deep beautiful reddish-brown color that didn't rub off easily. (5) Seal the surface with a clear lacquer, oil, wax, or other preferred method. Many possible variations on this technique will give different results and effects. -
Adapted from a compilation by David Mudge from items posted to ABANA's newsgroup, *theForge*, and published in the *Newsletter of the Blacksmith Assoc. of Missouri.*

• Dip punches in water and then in coal dust before punching deep holes. The gas generated by the burning coal prevents the punch from sticking. - East Texas Blacksmith Alliance Newsletter.

• Drill holes in your anvil stump or in nearby wall framing to hold chisels and punches conveniently for use. - East Texas Blacksmith Alliance Newsletter.

• Do something to improve your shop every day. It doesn't have to be much. Maybe a new tool or a better way of organizing stock. Sometimes if you just sweep the floor, it helps. The point is, if you make some small improvement each day, by the end of the year it will really show without having to make a major project out of it. - East Texas Blacksmith Alliance Newsletter.

• When making new tools, give some consideration to how they will be stored in your shop. They need to be easy to find when needed or it's like not having them, only worse. - East Texas Blacksmith Alliance Newsletter.

Civil War Reenactment Opportunities

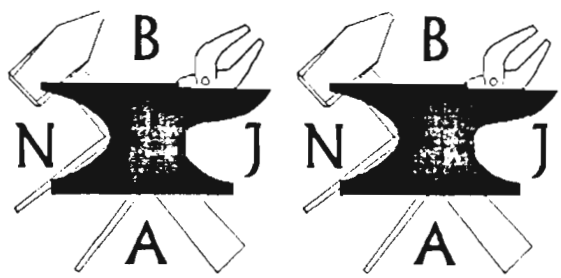
Aug. 28-30, Annual Civil War Days, Lakeview, Jamesburg, NJ.
Oct. 9-11, The 1864 Campaign at Allentown, NJ

The 14th Regiment NJ Infantry Volunteers, Company K, is seeking blacksmiths to add color and authenticity to their exciting events. Blacksmiths would need to bring a portable forge with supplies to work a major part of the day. smiths would be allowed to sell wares made on site as well as premade stock items. Period costumes would be close to those of the era of Allaire Village, but reenactors with civil war outfits are appreciated. A group is welcome so as to provide occasional breaks, but individual appearances over the three days is quite acceptable. Interested blacksmiths needing further details may contact Steve Milek of the 14 at (732) 521-2329 or Bill Ker of NJBA at (732) 223-6584. Persons wishing to participate in the Jamesburg event should reply immediately so proper arrangements may be made.

Have an Electronic Mail Address?

NJBA is now accepting and tracking email addresses from our members. If you have an email account and you would like this to be public information (within our membership), you can send it to us for inclusion in our next roster. We will be inserting our roster in a future newsletter so that you all can easily get in touch with each other.

If you'd like your email address included in our roster, please contact our Membership Chair, Pete Engle. Please send it via email for ease of processing. Pete can be reached at Pete@Almosthome.com. If you need to speak to him, his phone is 732-219-6560.



Special Double Issue

Like last month, this issue is double the usual length. In addition to the extra material included from other newsletters, this issue announces all the remaining meeting of this year. Please set aside these dates now to attend everything, including the holiday party. The next newsletter is not due to be published until the end of the year, so keep this one for reference until then.

JUNKYARD STEELS

The following list describes some potential types of steel used for common junkyard items. This information was compiled from several sources, Machinery's Handbook, Country Blacksmith, Blacksmith's Journal and Carpenter Technology Corp.

Machinery's Handbook is an excellent source for heat treatment of these steels.

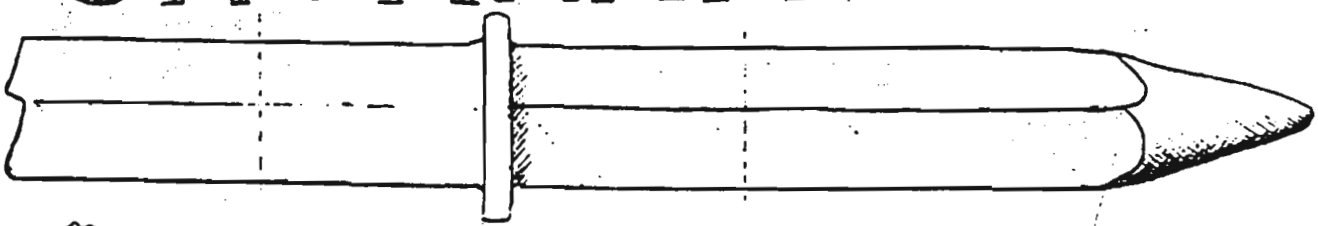
APPLICATION	Number	Letter
Agricultural steel	1080	
Axels	1040	
Ball Bearing Balls	52100	
Ball Bearing Races	52100	
Band Saw Blades		L-6
Bits, Router		M2
Bolts, anchor	1040	
Bolts, heat treated	2330	
Bolts, heavy duty	4815	
Brake Lever	1030	
Cams		A6, S7
Chisels		O2, O6, L6
Clutch disk	1070	
Clutch Springs	1060	
Coil Springs, auto	4063	
Coil Springs, truck	5160	
Cold-rolled steel	1070	
Connecting Rods	1040	
Crankshafts	1045	
Cutters, Bolt		S2, S7
Drifts		L6, S2, S7
Drills		M2
End Mills		M2
Fan Blades	1020	
Files		W-2
Gear shift levers	1030	
Gears, transmission	3115	
Hammers		L6
Harrow Disk	1080	

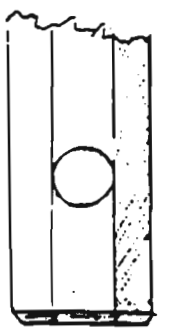
APPLICATION	Number	Letter
Hay Rake Teeth	1095	
Jackhammer Bits		S-5
Knives, machine		M2
Knives, woodworking		O2
Leaf Springs	1085, 5160	
Lock Washer	1060	
Mauls		L6, S2
Mower knives	1085	
Music Wire	1085	
Nail Sets		L6
Plow Beams	1070	
Plow Disk	1080	
Plow Shares	1080	
Pneumatic Tools		L6, A6, S7
Punches-Cold		A2, O2
Reamers		M2, O2, A2
Roller Bearings	4815	
Screw Drivers		L6, S2
Snap Rings	1060	
Spring Clips	1060	
Spring Steel, clock	1095	
Steering Arm Bolts	3130	
Steering Arms	4042	
Taps		M2, O2
Transmission Shafts	4140	
Tubing	1040	
Universal Joints	1145	
Valve Springs	1060	
Wrenches		L6, S2

by David W. Wilson,

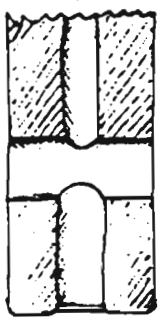
from the website of the North Texas Blacksmiths Association. (http://www.flash.net/~dwwilson/junksteel.html)

ON JACKHAMMER BITS





ELEVATION



SECTION

from:

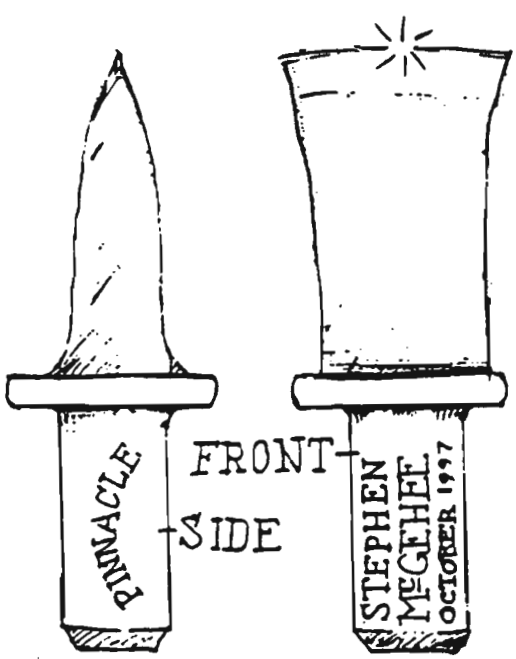
NEWSLETTER of the BLACKSMITHS ASSOCIATION OF MISSOURI

MONKEY TOOLS

1. Cut bits into manageable sized pieces with a chop saw or torch. Anneal.
2. The collar will be of little benefit on smaller sized tools. I would save it to make a cut off hardy.
3. Cut the stock into 7 in. sections & grind the ends square. Bevel outside edges slightly.
4. Bore out one end to desired size. Drill from the side 1/32" larger. Think about how long your tenons will be before side hole is drilled. Smooth mouth of end hole.
5. An engineer at Brunner & Lay in Springdale says they use 1045 to forge their bits... Other folks claim that they are made of Shock Steel; so heat treating is probably not needed.

CUT OFF HARDY

1. Forge shank to the size of your hardy hole. Drive in to insure tight fit. Remove with a drift already found & handy to use.
2. Forge blade to shape.
3. Clean up rough edges, harden & temper "possum-eyed Blue".

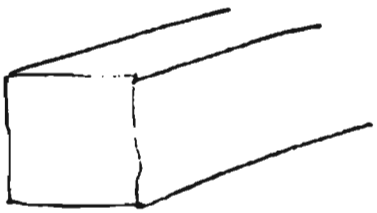


THANKS & A TIP OF THE HAT TO R. BARRINGHAUS & TO JOE WILKINSON

TWIST OF THE MONTH

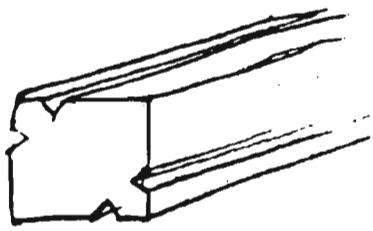
Our December 1997 Twist of the Month, which was written up so well by **Doug Merkel**, originated with **Doug Hendrickson.** This month's twist came directly from Dr. Iron. He calls it the **D.N.A. twist.** Here's how he does it:

1.



5/8"

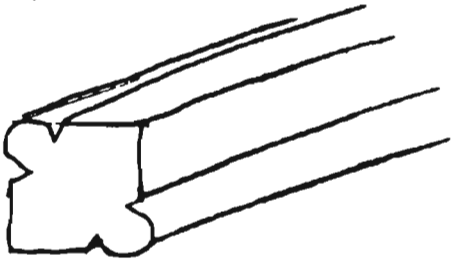
2.



In the example on the right, I hot cut the the grooves 3/16" from the edge; I believe that 1/4" would have made a better example. How about it, Doug?

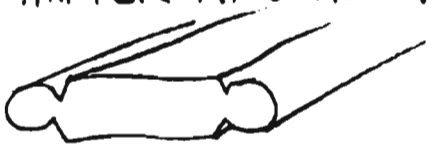
HOT CUT GROVES.

3.



HAMMER AND HOT RASP EDGES.

4.



HAMMER DOWN ON THE DIAMOND.

5. TWIST IT

Here's a pair of DNA twists that will end up in the "Red Railing" at the John C. Campbell Folk School.

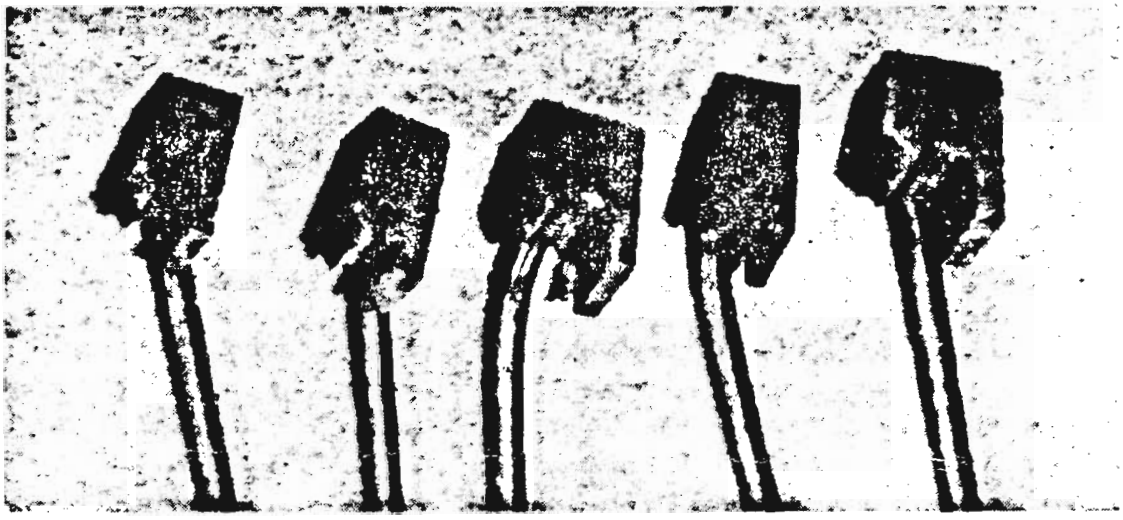
BTS

From:

N. C. ABANA -- The Hot Iron Sparkle

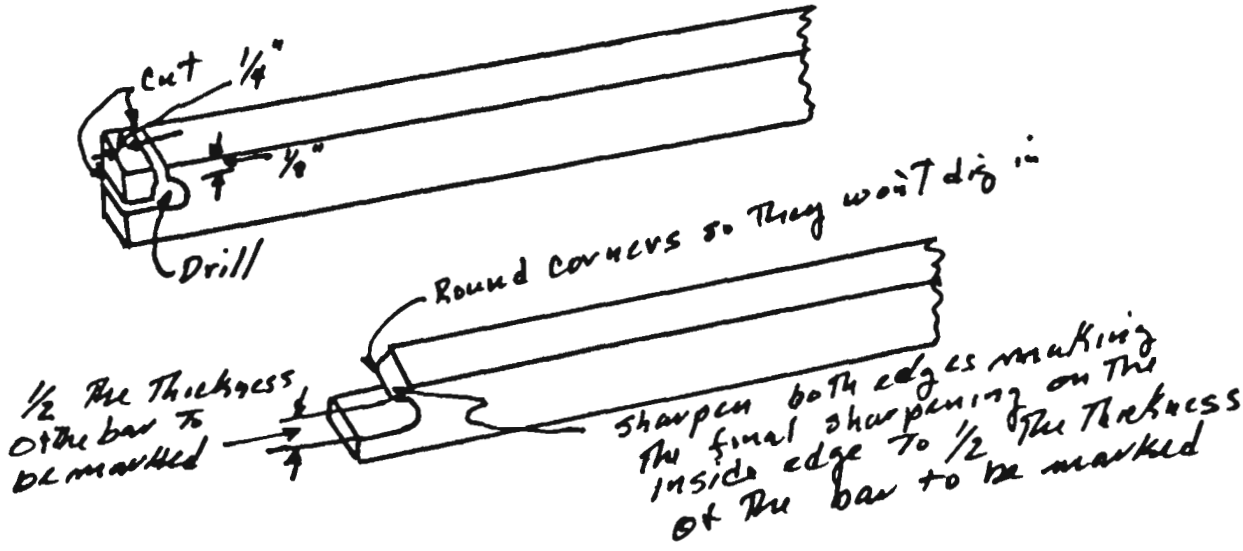
CENTER FINDERS

Trying to hit the center of a square bar with a chisel when it is red orange hot is very difficult if not impossible for me. Borrowing from Joe Bonifas who I first saw use one of these I made a set for myself including long narrow ones for marking bars where I planned to cut a hole. A picture of a set of these for marking the center of 1", 7/8", ¾", 5/8", and ½" is shown in the photograph below. The handles are offset at an angle to get your hand away from the heat of the bar.



From Southern Ohio Forge & Anvil

These are made by drilling a hole in a piece or hardenable steel 1/64 of an inch smaller then half the width of the bar to be marked. Drill the hole so that the side of the hole is approximately 1/8 of an inch from the edge and the bottom of the hole is ¼ inch from the bottom. Then cut in with a saw as shown in the figure below. The short ones can be ¾ inch wide and the long hand held ones ½ inch wide.



TRIVET of the MONTH

For this month's trivet I have chosen the first trivet I ever made, in fact it is one of the very first blacksmith projects I ever completed. So, those of you who are relative beginners should not be afraid to tackle this trivet.

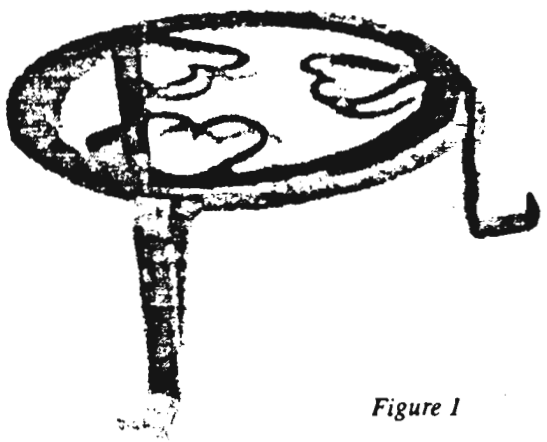


Figure 1

This trivet is made entirelyfrom the same dimension stock: 3/4" x 1/4". The ring is made from 27" of stock, and each of the three legs require 10" of stock.

The first job is to bend the ring and weld it. Of course edge bends are not easy, but with good heat (bright orange to yellow), they are not too bad. This job is made easier if you have an appropriate size piece of pipe to bend around or a cone mandrel to true up the circle when completed. You'll find it easier to forge the weld scarfs before bending, remembering to turn one one way and the other the opposite way. This is not a difficult forge weld, because the metal stays where you want it until welded. Be sure to clean the area to be welded thoroughly, before taking a welding heat.

Once the ring is complete you can start on the legs. You begin by splitting about three inches of one end of the leg right down the middle. There are several ways to cut the material. An easy way if you have a band saw is to make a three inch saw cut down the middle. There are two ways to use a hot cut to split the material. One is to lay the hot iron on a cutting plate on the anvil and cut. This usually requires the use of a "hold down" of some type. [You will find a discussion of hold downs on pages 6 & 7 of this issue.] However, I prefer to use the method I learned from Peter Ross, which is to put the stock in the vise with about one inch of the end sticking up, and cut straight down. It will take about three heats to do it this way, one inch at a time.

After you have split the end of the stock, you make a convenience bend to get one of the sides out of the way, and proceed to round up the stock and draw it out to a point. Then bend the pointed side out of the way and straighten the other side and draw it out to a point. It helps if you'll mark the length of the first point on your anvil so you can draw out the second one to match it. When you have both sides drawn out to equal length, you shape the heart over the tip of the horn or a round bick. You'll be surprised at how easy this is! Obviously the above procedure is repeated two more times to get the three legs required.

Once the hearts have been formed you need to make the necessary bends in the legs. (See figure 1.) Drill or punch for rivets to attach the legs to the underside of the ring being careful to divide the ring into three equal sections. Countersink the holes in the ring so that the rivet will not stick up above the surface of the ring.

Use your own judgment on the length of the leg and the shape of the foot. The dimensions given produce a trivet that is about 4 1/2" tall. This project is fun; try it!

BTS

From: N. C. ABANA -- The Hot Iron Sparkle

REPRINT FROM THE:
APPALACHIAN AREA CHAPTER
VOL. 18, NO. 2

A Wax For All Seasons

by Doug Merkel

A significant portion of my work deals with the repairs and reproduction of antique ironwork. Most of my customers want a natural finish that looks old, protects the metal and which can be touched up if needed without lots of work or fancy chemicals. To meet their needs I have modified a few formulas that have been around for sometime into one that works for me and my customers. For some of the larger jobs I leave a small container of the wax for use by the customer. It wears well inside and does quite well outside if applied correctly. I have a piece of ironwork with this finish that has been out in the elements for over a year without rusting.

1 Cup	Johnson's Paste Wax
1 Cup	Boiled Lindseed Oil
1 Cup	Turpentine
1/2 Cup	Shaved/pieces of Beeswax
2 Tblsp.	Japan Dryer

The first three ingredients can be obtained at most any hardware store, such as Lowe's, Home Depot, etc. The Japan Dryer is used by artists to speed the drying time for their oil paints, so is available at many art supply stores. The beeswax can be obtained from a local beekeeper, beekeeper supply shops, or blacksmith supply companies.

Mixing the Ingredients

Put all the ingredients into a glass quart canning jar, put the lid on with the retaining ring very loose. A metal can may be used, but it needs a tightly fitting cover. Either set up a double boiler or set next to your forge to get the mixture to melt. Do not put directly on the heat source and watch out for open flames. Once the ingredients are melted, tighten the lid ring and shake like crazy until all the wax is dissolved and is a homogenous mix. As it cools it will become a soft paste. Keep the lid on when not in use.

Metal Preparation

Remove all scale with a power wire brush or by hand. If you want a dark finish, remove the scale at a dull red and let the metal air cool until you can just handle it with your bare hands. For a brighter finish, use a power wire brush and remove all the scale while the metal is cold, then apply enough heat until you can just hold it in your hand.

Application

Apply the mixture with a brush, your fingers, or with a small rag. The heat will melt the mix and it will run into every nook and cranny. Let it cool and buff out with a rag. If you let the excess mix stay on the iron, it will eventually harden, but every place that has excess will show up as a bright spot. A second coat can be added to highten the luster while the metal is cold, just remember to buff off the excess with a cloth.

ONE WAY TO MAKE A SPIRAL FINIAL

There are always at least three ways to do anything, your way, my way, and the right way. This is about my way of making a spiral finial. These can be used as design elements in a panel, or as finials for such as bed posts, coat racks, and so on.

In order to do this my way, you'll need to make a couple of simple tools. First you'll need a tapered mandrel. Mine is made of mild steel, it's about 2" dia. at it's widest point and has about a 10" taper to 0". It's bent to mount in a vice or hardy hole. You can forge the shape or turn it on a lathe.

Start with a piece of 3/8" round mild steel 32" long (+/-). Draw a 15"long taper to a very small point, your piece should now be 36" (+/-). The finished size of your piece is less important than making them all the same, if you are doing more than one. So make them all the same size. Mark half the length.

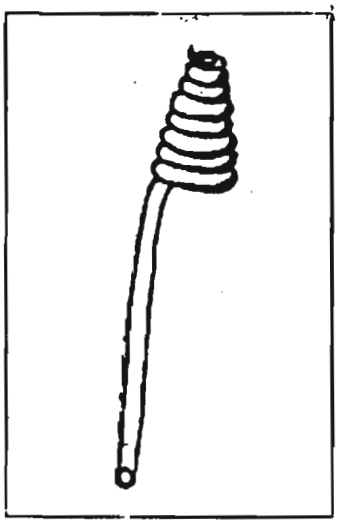
Now heat the tip of your 3/8" piece very carefully in the forge and start a very small circle (1/4"id) on the sharp horn of your anvil. Is this spiral going to be left or right? Think about that. Try the circle over the very tip of the mandrel. Fit it to the very end. Adjust your smallest 'vice-grips' to hold the tip of the piece to the tip of the mandrel.

Now re-heat the tip of the piece carefully in the forge, move it quickly to the mandrel, clamp it in place, and make one wrap around the mandrel. whew ! Did it work? or did it slip? If it slipped, try again.

Now using your torch, heat and wrap in a tight spiral around the mandrel until you reach the half way mark. Now remove the spiral from the mandrel. You may have to tap and un-screw it to remove. I like to quench the mandrel at this point. (see fig. 1)

The second small tool that you need to make is very simple, 3/8" round mild steel, 4" long. Draw a 1" taper on one end and flatten about 2" of the other end. Bend 90deg. in the center, fit the flat side to your mandrel. (see fig. 2) Replace the spiral on the mandrel and mark where the wrap ends. This will be the starting place for the return wrap. Next clamp the special tool #2 on to the mandrel so that the spike a ligns with the mark that you just made.

Your piece should look like this.



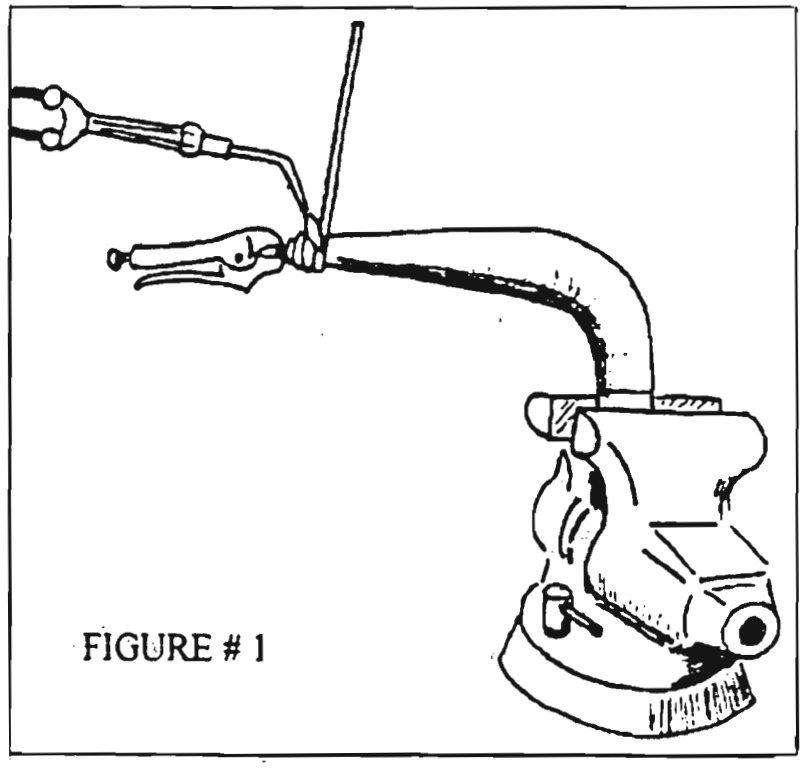


FIGURE # 1

Your set-up should now look like (fig. # 3) mate the spiral to the spike with the long straight arm at right angle to the mandrel on the small taper side. Think, you are now going to taper the other end of your finial from large to small. With the torch, heat the finial where the last wrap turns straight. Make a smooth curve back to the mandrel and continue to heat and wrap down the taper. Stop when you have about 2" of rod remaining. Unclamp and remove the finial. It should resemble (fig. # 4). Clamp the 2" end in your vice heat and adjust the finial until it looks right. Bend the stem straight down to make an attachment.

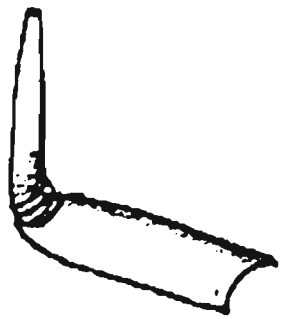


FIGURE # 2

At this point I like to heat the whole thing up to a light forging temperature and adjust it's shape on the anvil. You can get a more consistent shape that way.

Now make another one that wraps the opposite way. Have fun.

Dave Mudge
Magic Hammer Forge
lama@wild.net

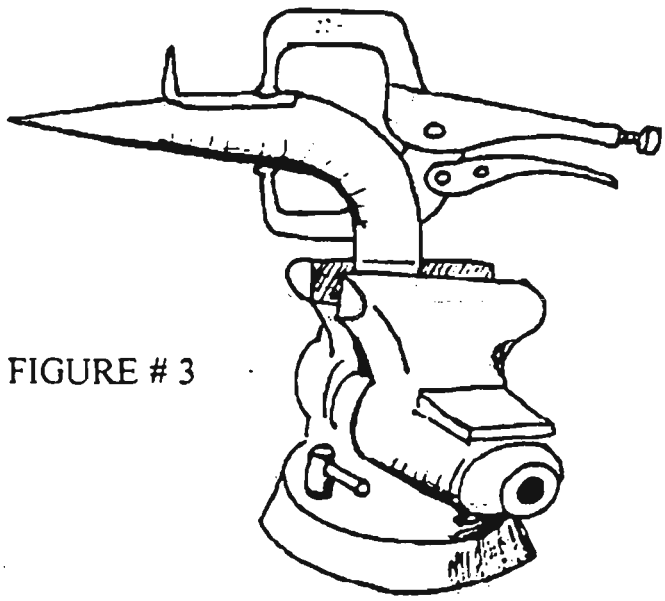


FIGURE # 3

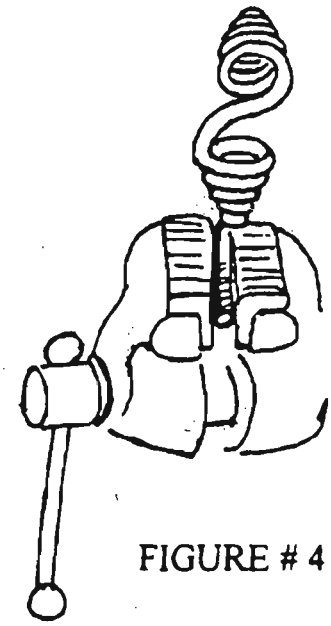
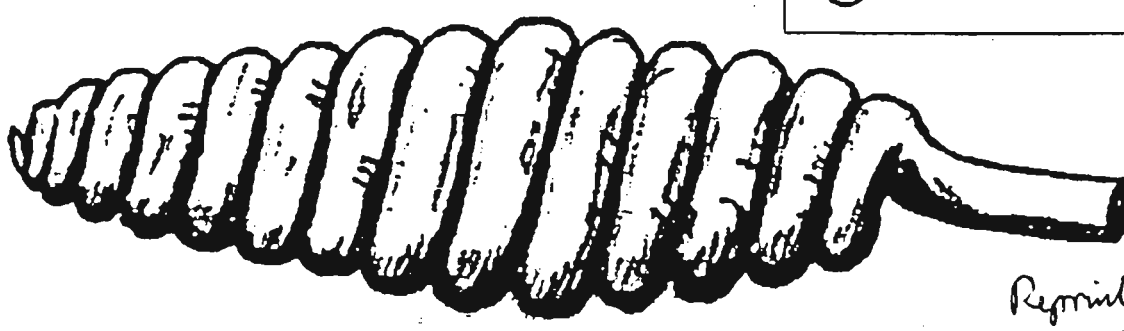


FIGURE # 4



Reprinted from LAMAGRAM

FINISHED SPIRAL FINIAL 6" x 1½"

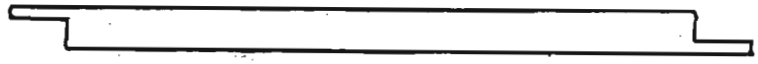
TO MAKE A SPIRAL CANDLE HOLDER
by Robert S. Cerny

The candle as a source of illumination is a relative newcomer having been preceded by the firebrand, candlewood, oil lamp, and the rush light. The oil lamp dates back many millennia, examples attributed to 5000 BCE being virtually identical in form and function to early colonial pieces. The candle by comparison probably dates back at least to the middle ages. Illustrations from the fourteenth century show candlesticks and candle standards and other kinds of holders in use at the time.

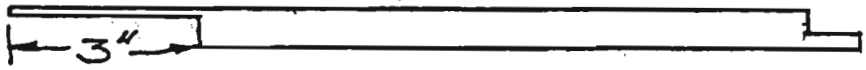
The spiral candle holder was a type common on the continent in the eighteenth century as well as England and the colonies. The design of this type of holder was probably an attempt to Help support the tallow candles, primarily in use at that time, to prevent them from slumping. The continental examples are usually made of round or half round section iron and mounted on a metal tray with three legs.

The example chosen for this article is made of flat section iron mounted on a turned wood base and is taken from an original in the collections of the Farmers Museum in Cooperstown, NY.

Starting with a 20" piece of 1/8" X 3/4" stock, shoulder in over the edge of the anvil starting 1" in from each end on OPPOSITE edges and forge down to approximately 5/16" wide while maintaining the 1/8" thickness. Keep the workpiece at a full forging heat and dress the sides frequently to prevent fold over and cold shuts.

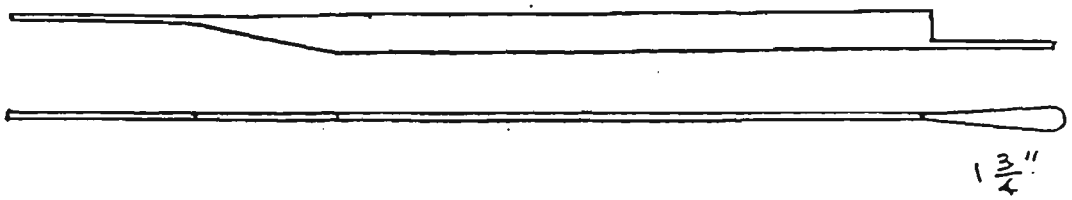


Forge one of these ends down to 1/8"X1/8"X3". This will become a spike used to go down through the wood base to secure it in place. You must use plenty of heat and dress the sides often to accomplish this without cold shuts. Use both the horn and face of the anvil for this step.



Starting from the shoulder on the spike end of the workpiece, forge a taper 3" long while maintaining the 1/8" thickness. Keep it hot and progress slowly from the shoulder back meanwhile dressing the sides. It will only require 1 3/4" of stock to form the 3" taper so don't get carried away.

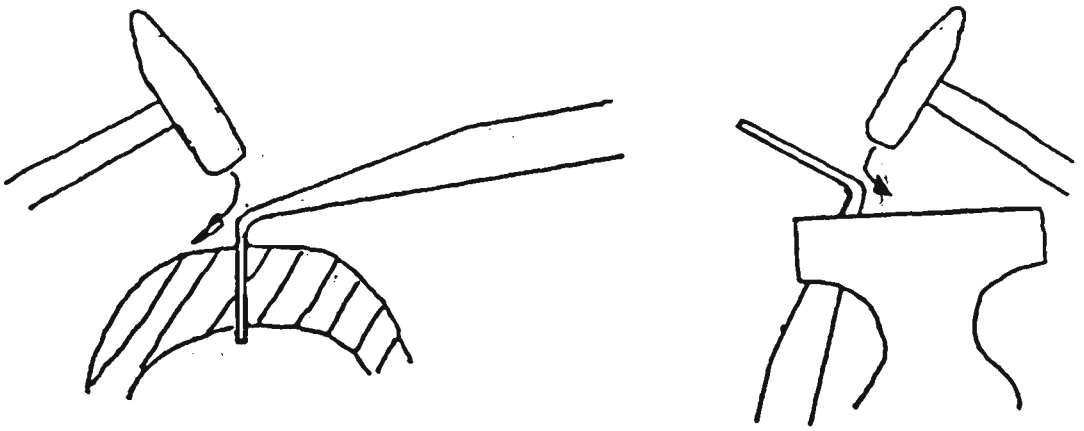
Forge the edge of the step on the other end of the bar into an elongated teardrop shape approximately 1 3/4" long.



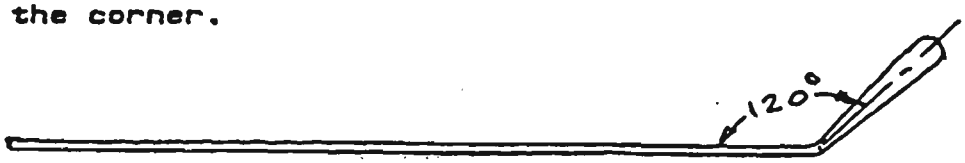
Forge a taper extending 3" back from the shoulder in exactly the same manner as described above. Bend the teardrop shaped finger lift back in line with the taper.

Forge an upset 90 degree bend between the spike and the ramp.

This is accomplished by bending in a vise to approximately 110 degrees as illustrated and using drawing blows with a light hammer to draw metal out to fill in the corner. Work from both edges of the bend while supporting the free end by hand or tongs. Several heats may be necessary to accomplish this. Note that the vise jaws NEVER contact the inside corner of the bend.

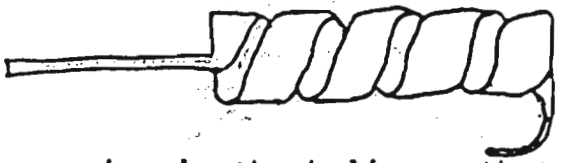


Bend the teardrop section back to an angle of approximately 120 degrees to the flat section of the bar leaving a slight radius in the corner.

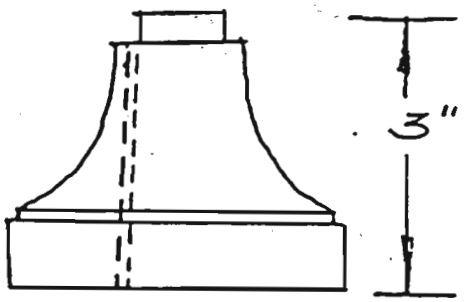


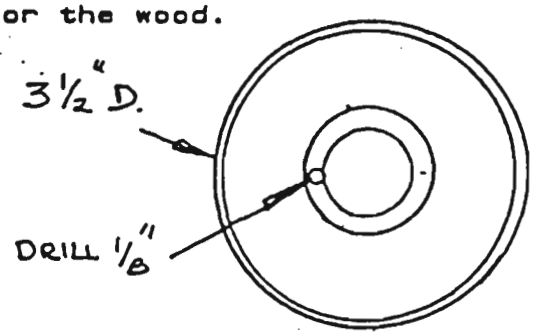
Take a slow heat, moving the forging back and forth in the forge to get a uniform heat the full length of the piece. Starting

at the finger lift, wrap in a helix around a piece of 1/2" black iron pipe or a 7/8" diameter iron rod held in a vise. Try to maintain a uniform space of approximately 1/8" between turns. Curl down the finger lift in a graceful arc.



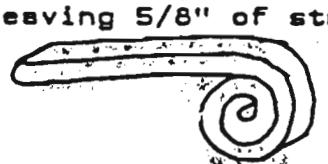
Adjust the spacing in the helix so that a uniform 1/8" gap is maintained. Depending on the configuration of the base to be used, it may at this time be advisable to forge the spike to a round section rather than attempt to burn it into the drilled hole in the base. The base illustrated has a rather thin section that may burn through or discolor the wood.





After fitting to the base, forge the end of the spike to a thin section and allow it to protrude 1/4" through the base and bend over to secure.

The candle lift is forged from a piece of 3/16" diameter stock. Forge very carefully to 5/16 wide WITHOUT forging the edges in. Leaving the edges rounded gives a nice effect.Two inches is sufficient length. Scroll very tightly, coil on coil, at least two full turns and cut off leaving 5/8" of straight stock.



Forge the end down on the horn to the approximate shape indicated and a width of approximately 3/16".

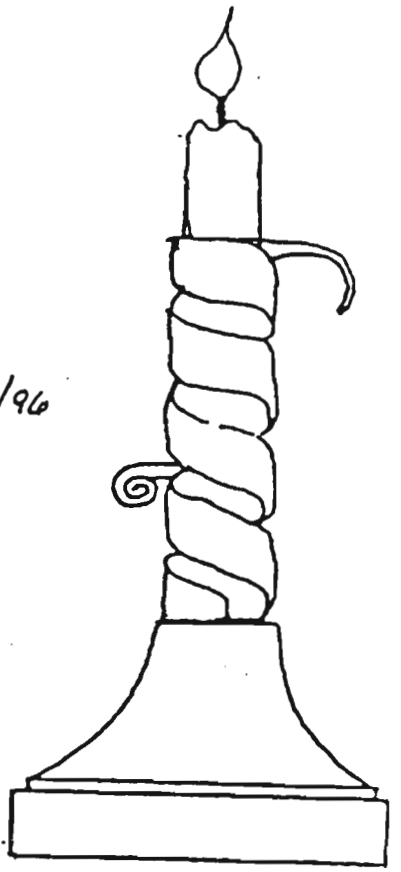
If your helix is RIGHT hand the candle lift will require a 20 degree turn to the LEFT in order to fit and function properly in the space between turns of the helix. A LEFT hand helix will of course require a 20 degree turn to the RIGHT. This may be done cold. Next, burn the candle lift into the drilled hole in the 3/4" diameter wood dowel that will support the candle. Use a chisel to cut barbs on the shank of the candle lift and carefully drive it into the dowel.

Assemble to the helix and adjust the spacing if necessary for smooth operation.

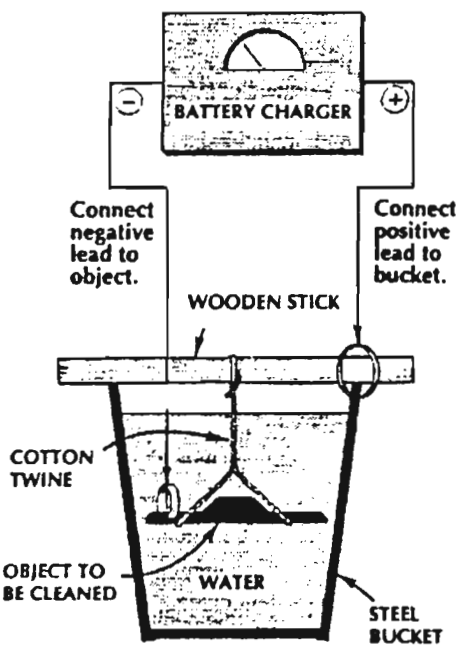
References:

Antique Iron H,P,&N Schiffer p_253
Colonial Lighting A. Hayward plate 4, p 93
Iron & Brass Implements J. S. Lindsay fig 286, p 49
Early American Wrought Iron A. Sonn fig 6, p 228
Antique Country Furnishings G. Neumen fig 285, p 79,Fig Fig

® ± 9/28/96



Electric Rust Remover



Electric Rust Remover

This devise can bring unrecognisable lumps of rust back to uneful forms. Here's how it works: You suspend the object to be cleaned in a steel bucket of water, then hook the negative lead from the batteryn charger to the object and the positive to the bucket. When you plug in the charger, the electric current will draw off the rust. I usually wait about 10 hours, then shut off the current and retreive the object. After using soap and water to wash off the greasy black residue, I dry the object with an old towel and spray it with WD40

FROM BUTCH SHEELY ON THE DEMONSTRATION BY JAMIE GIER

Jamie demonstrated a slate topped table, the frame work for the table top was already fabricated. Throughout the day Jamie forged 2 sets of legs and 2 sets of cross braces.

Jerry and Jamie now have 3 power hammers set up in the shop, a 100# Little Giant, a 35# Kerri Hard and a 25# Little Giant. Jamie does very little with a hand hammer, the legs start out as 20 inches of 5/8 square stock, which he forges down to round, leaving hammer marks for texture. He forges a round ball on the bottom of the legs with a tool under the 100# hammer in one heat. You can tell by the way he moves, that Jamie hs made a few of these tables, if I remember right, Jamie and Rich (Rich works part time in the shop with Jerry and Jamie) built 10 tables in one week. Jamie has developed a number of jigs and fixtures to help in the production of his tables. After the legs are forged to size and shape, they are formed to an S shape. One reason for the curved shape is Jamie feels the curved legs are easier to level in the final product that straight legs are. To make the cross braces Jamie starts with 2 pieces of 52"X½" square stock. The ½" square is forged down to round and tapered on both ends. For a table of this size, the cross braces must measure at least 72", before they are formed.

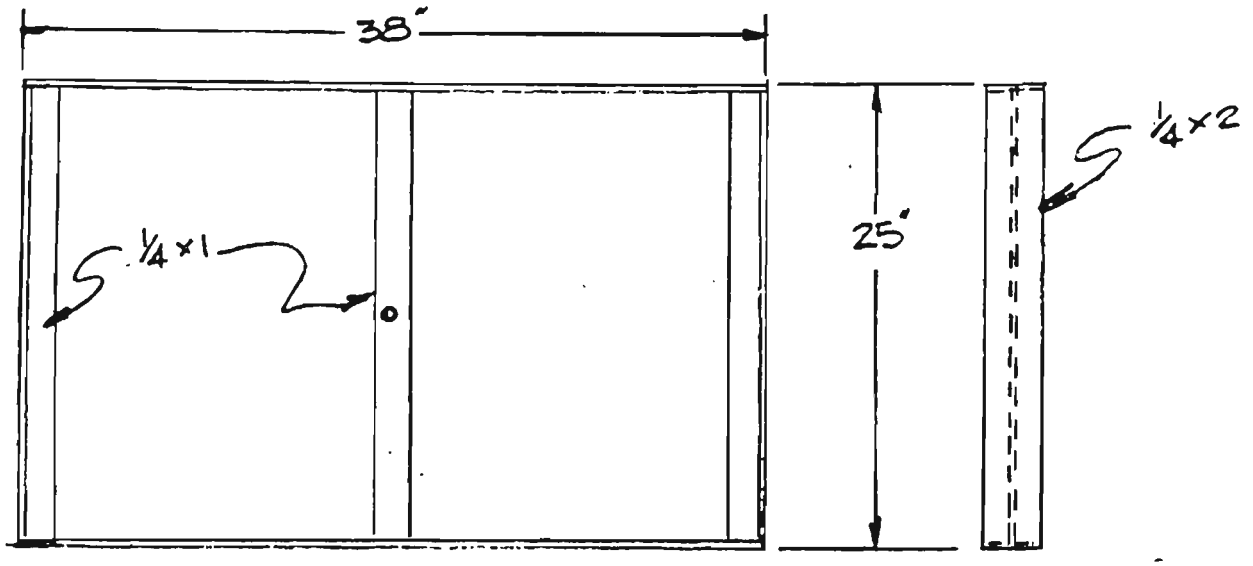
Jamie makes a square knot to form the cross bracing. Take the 2 pieces and heat the center, form around a 1-3/8 diameter pin. Forming the eye tight. Next, form the eye at approximately 45°. Once both pieces are in this shape, slide the ends thru the eyes of both pieces. At this point, Jamie uses a torch to enable him to spread the braces to form the cross bracing.

The legs are cut to length and welded to the frame, again using a fixture to hold the legs in the correct location. Jamie drills a hole in the center of the middle frame cross member so that he can use a plumb-bob to locate the center of the square knot in the cross bracing. The cross bracing is then tack welded to the legs on all four corners, then he uses a torch to wrap the ends of the cross braces around the legs and then wraps the braces back on itself. It's at this point that he does the final leveling of the table.

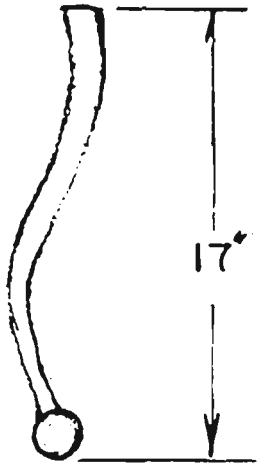
Jamie uses 3/4" CDX plywood as a base to set the tile on. The slate is approximately 1" thick. Jamie uses liquid nail to glue the slate to the plywood. After the slate is set, he grouts the table top.

The finished product looks great and sells very well. It was a great day and a great demo.

From: Northwest Ohio Blacksmiths Newsletter

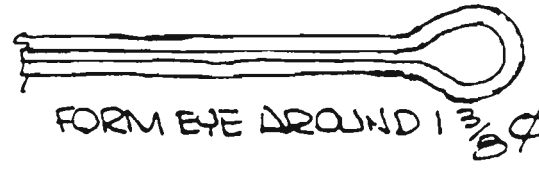


TOP VIEW OF FRAME

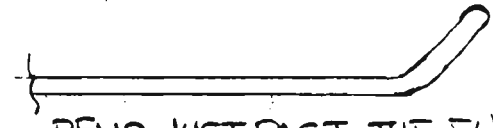


LEG DETAIL

CUT LEGS TO LENGTH AFTER FORMING

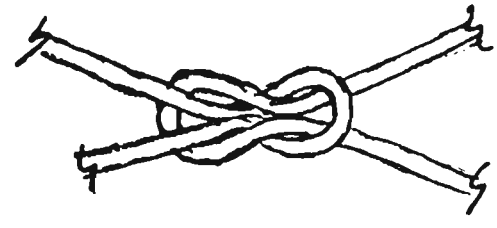


FORM EYE AROUND 1 3/8 Ø

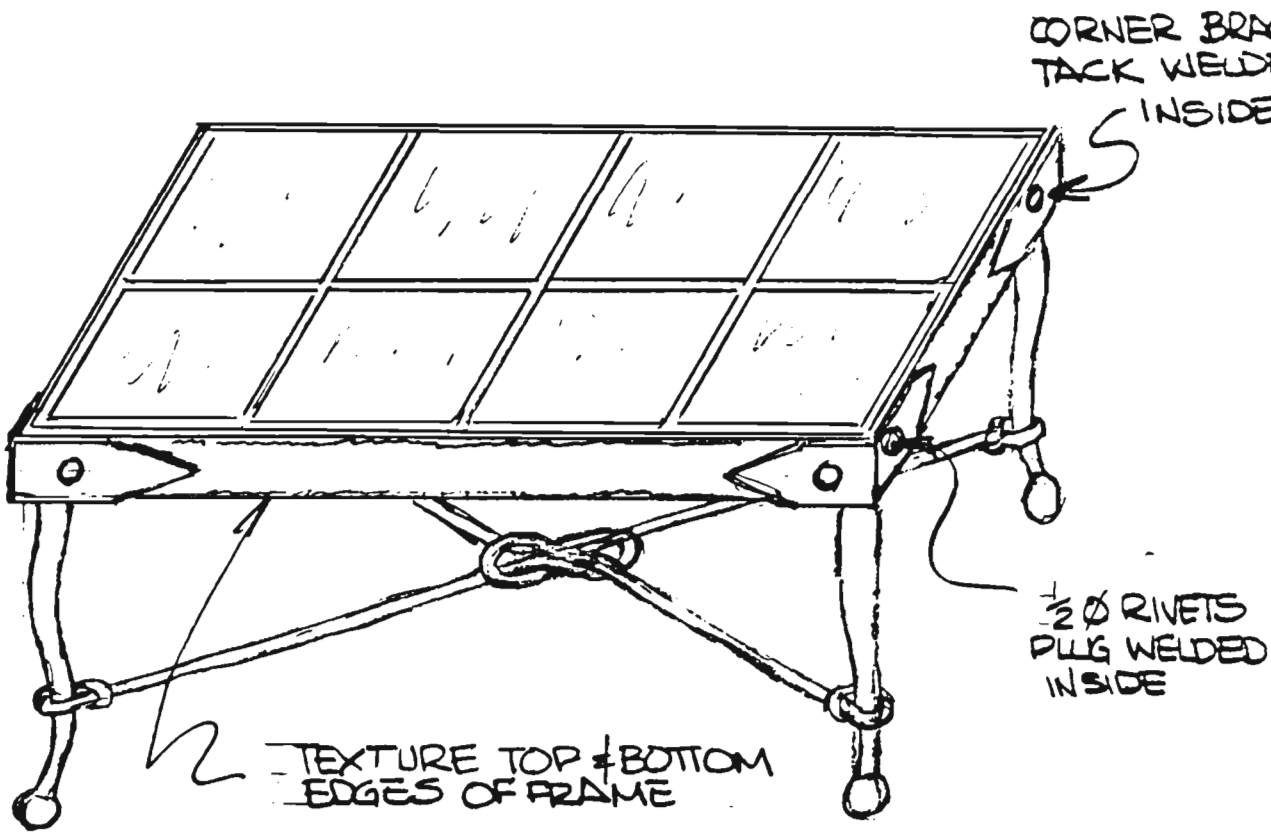


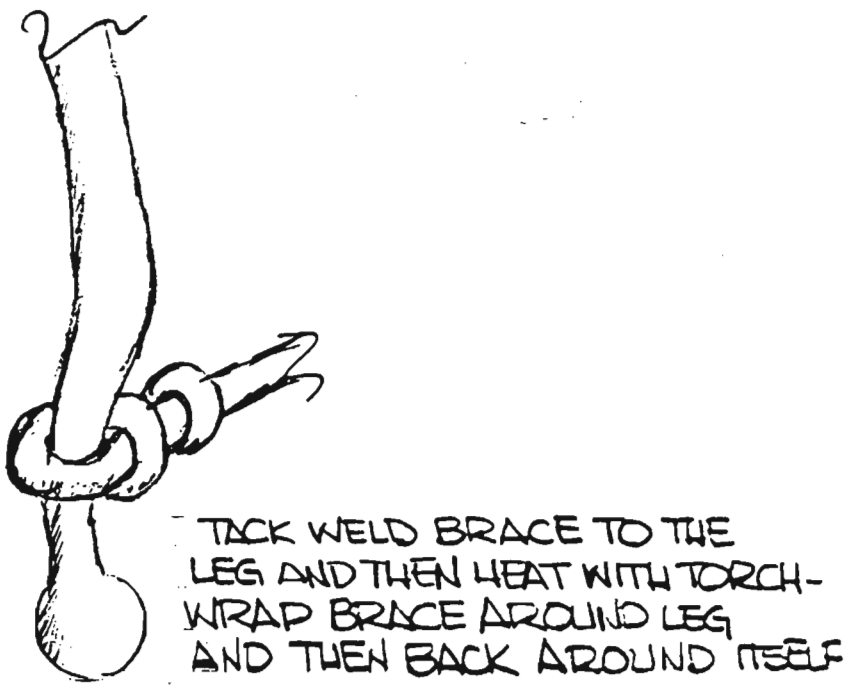
BEND JUST PAST THE EYE

SLIDE 2 PIECES TOGETHER



SPREAD AND THERE'S THE SQUARE KNOT


CORNER BRACES
TACK WELDED
INSIDE
½ Ø RIVETS
PLUG WELDED
INSIDE
TEXTURE TOP & BOTTOM
EDGES OF FRAME


TACK WELD BRACE TO THE
LEG AND THEN HEAT WITH TORCH-
WRAP BRACE AROUND LEG
AND THEN BACK AROUND ITSELF

Life of an Apprentice Blacksmith by William Green

Reprinted from *Bellows Breeze* newsletter of the Artist Blacksmith Association of New Zealand

William Green served his five year apprenticeship under William Curie of Perth, Scotland. In those times boys were sent to other blacksmiths -on loan- if the other blacksmith could not get an apprentice through the normal channels. Hence William was sent to Alexander Thomson of St. Vigeans for one year. This essay written by him is a glimpse of blacksmithing in a remote fishing village on the East coast of Scotland.

The apprentice was provided with an alarm clock. He was expected to be the first one up at the start of day, 6 am for six days, and 8 am on Sundays... all year round.

The first duty was to light the coal range in the Kitchen, fill the kettle and put it on to boil. The next task was to go to the smithy, and having first made certain the clinker was removed and the bosh on the tue iron was filled with water, light the fire.

This is how my days began, when as a fifteen year old I worked at a country blacksmith shop at St. Vigeans, a fishing port two or three miles from Arboath on the rugged East coast of Scotland. A church graced the village, but no post office or pub or shop... so "hamlet" might be a better name.

Alexander Thomson the blacksmith would come in while I was working the bellows getting the fire going. Without a word we would start work where we left off the day before. Sometimes there would not be enough coke left from the previous day to have a good heart to the fire. Then Thompson would stand staring into the black coal and smoke, occasionally putting water wherever flames appeared. It was sometimes difficult to see with only a kerosene stable lantern; we had no electricity. About 8 am we knocked off for breakfast. Apart from the first thing in the morning the times were flexible.

We had to be frugal and have no waste. Few new articles were made, but we renewed agricultural and fishing implements and horse drawn gear. "New" horse shoes were made by doubling over and forge welding together two or more worn out shoes. Most often we repaired or made good by "laying" (welding) a piece of iron to the part which had worn away.

I remember that we made a former for a fence, then made the fence. My memory of making the fence however, was of the hours I spent at the hand drill press. We made a set of harrows which ensured that no tine followed in the track of another, as each tine cut its own track. We made ironwork and anchors for fishing boats, and some times repaired chain. We made new tyres for wooden wheels and "shrank" tyres which became loose when the wooden wheel had dried out and got smaller.

The mainstay of the business was horseshoeing. When horses arrived at the smithy, all other work was put aside. On wet or snowy days we might have an overflow stretching a considerable way down the road. All the horses were heavy Clydesdale types. I can't recall any being difficult to handle. In winter we would sometimes go to a stable to "sharpen" the horseshoes, as this enabled the horses to work on snow and ice.

We would have lunch around midday, but never was a horse left without shoes! We would nail the shoes on or defer taking the old shoes off until after lunch or dinner. We had three meals a day. Morning and afternoon teas were unknown.

Horses were always finished on the day they came to us, even if that meant working into the night. In the winter we often worked at horses by candlelight, the candle burning on the toolbox. We had a stable lantern over the shoeing floor and another one over the anvil. The hearth also shed a warm light over events.

The ploughmen who brought their teams would work the bellows. There would be a great deal of joking and laughter as they made social occasions of their visits. The life they led probably gave them little opportunity to fraternize with each other. There always seemed to be people waiting, waiting for horses, or waiting for jobs to be done. If a job came in that was needed in a hurry we should do it straight away. Some were not done until they were needed, usually the next day, but sometimes not for months. People waiting were collared, always men and boys, to work the bellows or swing a sledge hammer (no power hammers in this shop) or even sweep the shoeing floor. I can't remember anyone objecting. They always complied willingly.

If there were no horses to finish we knocked off work about 5 pm. Our evening meal was about 6 o'clock, after which the apprentice retired to his own quarters at the rear of the blacksmith's home. This is how it was to be an apprentice blacksmith in Scotland fifty years ago.

How to Join or Renew your Membership in NJBA:

NJBA dues are $15 per year. Please make out your check to

"New Jersey Blacksmiths Association."

Please mail checks to

Pete Engle, 47 Center St., Rumson, NJ 07760.

along with the following information. You will receive the most recent newsletter as an acknowledgment of your membership. Annual dues are due on June 1. If you join in April through June, you will not owe renewal dues until June of the following year. If you join at another time of year, your will owe dues the following June, but you will receive any back issues of the current volume of the newsletter.

(This information will be listed in a roster available to other members.)

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